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March 15, 1990

Regional Administrator
United States Environmental
Protection Agency, Region 5
ATTN: Hazardous Waste Enforcement
Branch
230 South Dearborn Street
Chicago, Illinois 60604

Director, Solid and Hazardous
Waste Division
Minnesota Pollution Control Agency
ATTN: Site Response Section
520 Lafayette Road North
St. Paul, Minnesota 55155

President
Reilly Industries, Inc.
1510 Market Square Center
151 North Delaware
Indianapolis, Indiana 46204

RE: United States of America, et al. vs. Reilly Tar &
Chemical Corporation, et al.
File No. Civ. 4-80-469

Gentlemen:

Enclosed is the annual progress report submitted pursuant to Part K of the Consent Decree in the above captioned matter. This report is issued by the City in accordance with Section 2(a) of the Reilly/St. Louis Park Agreement (Exhibit B to the Consent Decree).

Sincerely,

James N. Grube
Director of Public Works

JNG/ja
Enclosure

cc: William Gregg (w/enclosure)
Elizabeth Thompson (w/enclosure)

3/15/90 k.y

**1989 ANNUAL PROGRESS REPORT
ON THE
IMPLEMENTATION OF THE CONSENT DECREE**

SUBMITTED TO THE

**REGIONAL ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V**

**EXECUTIVE DIRECTOR
MINNESOTA POLLUTION CONTROL AGENCY**

BY

THE CITY OF ST. LOUIS PARK, MINNESOTA

**PURSUANT TO
CONSENT DECREE - PART K**

UNITED STATES OF AMERICA, ET AL.

VS.

REILLY TAR & CHEMICAL CORPORATION, ET AL.

**UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA
CIVIL NO. 4-80-469**

MARCH 15, 1990

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1.0 INTRODUCTION

The Consent Decree in United States of America, et al. vs. Reilly Tar & Chemical Corporation, et al. (U.S. District Court, Minnesota, Civil No. 4-80-469) was signed by Judge Magnuson on September 3, 1986, and entered by the Court on the following day. The Effective Date of the Consent Decree is therefore September 4, 1986 (see Part EE of the Consent Decree).

The Consent Decree requires various actions to be taken by Reilly Industries, Inc. (Reilly), the City of St. Louis Park (City), the U.S. Environmental Protection Agency (USEPA), the Minnesota Pollution Control Agency (MPCA), and/or the Minnesota Department of Health (MDH). These actions are required by the Consent Decree itself, by the Remedial Action Plan (RAP) (Exhibit A to, and an integral and enforceable part of the Consent Decree, per Part F thereof), or by the Agreement between Reilly and the City (Reilly/City Agreement) (Exhibit B to, and an integral and enforceable part of the Consent Decree, per Part Q thereof, as to the rights and responsibilities between Reilly and the City).

This, annual progress report submitted in accordance with the requirements of Part K of the Consent Decree, describes actions taken to implement the requirements of the Consent Decree from January 1 through December 31, 1989. This report also describes activities scheduled for calendar year 1990 as required by Part K.

As an aid to the reader in following the progress of the many activities involved, this report provides separate descriptions of completed and scheduled activities required by the Consent Decree (Sections 2 and 3, respectively) and by the RAP (Sections 4 and 5, respectively). Within each section, areas of activity are discussed in the order in which they are discussed in the Consent Decree and RAP.

2.0 COMPLETED CONSENT DECREE ACTIVITIES

Part K of the Consent Decree requires that Reilly submit annual progress reports to the USEPA and MPCA by March 15, which describe actions taken to implement the requirements of the Consent Decree during the previous year and describe activities scheduled for the year in which the report is released. The 1988 annual report was submitted by the City, on behalf of Reilly, on March 15, 1989. In correspondence dated April 28, 1989 the USEPA and MPCA indicated the annual report (dated March 15, 1989) was accurate and complete in all respects except for the acknowledgement of the Agencies' approval of the City's Housing Redevelopment Authority Site Development Plan and Construction Plan on December 2 and 21, 1987 respectively. The Agencies' correspondence indicated neither Reilly nor the City were advised of the Agencies' action and indicated copies of said approvals were attached therewith.

Part L of the Consent Decree states that whenever, under the terms of the Consent Decree, notice is required to be given or a report or other document is required to be forwarded, it shall be directed to the individuals, at the addresses specified therein. On January 1, 1989, Reilly changed its corporate name to Reilly Industries, Inc. Accordingly, the new mailing address for Reilly is:

President
Reilly Industries, Inc.
1510 Market Square Center
151 North Delaware Street
Indianapolis, Indiana 46204

Part O of the Consent Decree states that Reilly, the City, the USEPA, or the MPCA may change its designated Project Leader and alternate by notifying the other Parties, in writing, of the change. In correspondence dated May 26, 1989, the USEPA and MPCA informed Reilly and the City that the Agencies had

designated David Wilson and Justin Blum as their respective Project Leaders, indicating no alternates had been designated. In correspondence dated November 20, 1989, Reilly informed the Parties that it had designated James Bratina as its Project Leader, retaining William Gregg of ENSR Consulting and Engineering as its alternate. In correspondence dated November 28, 1989, the USEPA and MPCA informed Reilly and the City that the Agencies had designated Darryl Ownes and Julie Shortridge as their respective Project Leaders. The MPCA also designated Justin Blum as its alternate, while the USEPA indicated no alternate had been designated.

Part P of the Consent Decree requires Reilly to provide the USEPA and MPCA with copies of access agreements for property upon which access is required for RAP activities. Section 4 of the Reilly/City Agreement provides that the City assume this obligation for Reilly. In correspondence dated May 3, 1989, the USEPA, MPCA, and MDH indicated that the language contained in a February 10, 1988 draft agreement authorizing access to Minneapolis Park and Recreation Board property was acceptable provided Reilly bears all risks which may follow from later denial of access. In correspondence dated May 25, 1989, Reilly indicated acceptance of the draft proposal. On August 21, 1989 the City executed two access agreements with the Minneapolis Park and Recreation Board.

Part Q of the Consent Decree acknowledges the Reilly Agreement with St. Louis Park (Reilly/City Agreement) as Exhibit B to, and an enforceable part of, the Consent Decree. Section 2 of the Reilly/City Agreement provides that by September 3, 1990, if necessary to avoid sanitary sewer charges on the discharge from wells W23, W105, the Drift-Platteville Aquifer source control wells and gradient control well, Reilly shall plan, obtain necessary permits for, and construct a treatment facility and piping to allow effluent from the

wells to be discharged to a storm sewer. On November 21, 1989 Reilly submitted a proposed "Plan for the Discontinuing Sanitary Sewer Discharges at the Reilly Tar & Chemical Corporation, N.P.L. Site". The plan was submitted pursuant to Section 2.9. of RAP and greater detail regarding this activity is provided in Section 4 of this Report. Section 3 of the Reilly/City Agreement requires the City to prepare applications for permits necessary to implement the RAP. On December 1, 1989 the City submitted an NPDES permit application to the MPCA on behalf of Reilly to allow for the discharge of wells W23, W105, and the Drift-Platteville source control wells to surface waters. The permit application was submitted in conjunction with Reilly's submittal pursuant to Section 2.9. of the RAP. Section 6 of the Reilly/City Agreement requires Reilly to pay \$250,000 to the St. Louis Park Contingency Fund by September 30, 1989. Reilly submitted said payment on September 22, 1989. Section 9 of the Reilly/City Agreement provides for the payment by one party of costs incurred by the other party or the sharing by the parties thereto of costs incurred by one party in the implementation of the RAP. The City has submitted invoices to Reilly for costs incurred, payment for which has been owed by Reilly. Reilly has made necessary payment to the City, in accordance with the requirements of Section 9.

Part R of the Consent Decree requires Reilly to make \$37,500 payment to the Environmental Response, Compensation and Compliance Fund of the Treasury of the State of Minnesota by February 28, 1989. Reilly submitted payment on February 22, 1989, meeting the established deadline.

Part Y of the Consent Decree requires Reilly to provide the USEPA and MPCA with current certification of insurance for certain specified coverages. Reilly wrote the USEPA and MPCA on July 7, 1987 to request that the excuse granted to Reilly on October 7, 1986 from meeting certain notification

requirements for insurance cancellation be extended to July 1, 1988. The USEPA and MPCA approved this request on September 9, 1987. On March 13, 1989, Reilly submitted certificates of insurance for liability coverage, indicating excess coverage was in place with renewal anticipated on July 7, 1989. Reilly submitted information in partial compliance with Part Y and informed the Agencies that reasons necessitating an excuse continued to be valid, thereby causing it to request further extension of the excuse (relating to the language of the insurance certificates) until July 1, 1990. As of December 31, 1988, no response had been received from the Agencies.

Part Z of the Consent Decree requires Reilly to deliver to the United States and State of Minnesota by May 31 of each year, a certificate prepared by Reilly's certified public accounting firm which sets forth whether Reilly's consolidated performance is in accord with the requirements established in the Consent Decree. Reilly submitted a financial certificate on May 22, 1987, and on January 5, 1988 the USEPA and MPCA requested additional information to demonstrate that Reilly has met the long term requirement defined in Part Z. On February 2, 1988 Reilly provided information in response to the Agencies' request. As of December 31, 1989, no response had been received from the Agencies. On May 18, 1989, Reilly submitted a certificate prepared by Reilly's certified public accounting firm which sets forth whether Reilly's consolidated performance is in accord with the requirements established in the Consent Decree. Included therewith was a copy of Reilly's Resource Conservation and Recovery Act (RCRA) Financial Responsibility Assurance filing which the USEPA Region 5's RCRA office required under 40 CFR Section 264.143(f)(3). As of December 31, 1989, no response had been received from the Agencies.

3.0 SCHEDULED CONSENT DECREE ACTIVITIES

Part P of the Consent Decree addresses the issue of securing access agreements to conduct the various activities contemplated in the RAP. The City has commenced negotiations with various parties from whom access authorization must be attained based upon the content of Agency correspondence dated May 3, 1989. Said correspondence approved a revision in access agreement language for certain properties owned by the Minneapolis Parks and Recreation Board; however, the Agencies indicated they would review each agreement on a case by case basis. Accordingly, individual negotiations are ongoing with each affected property owner in an effort to secure similar agreements to those which were approved by the Agencies on May 3, 1989.

Part Q of the Consent Decree acknowledges the Reilly/City Agreement as Exhibit B to, and an enforceable part of the Consent Decree. Section 2 of the Reilly/City Agreement provides that by September 3, 1990, if necessary to avoid sanitary sewer charges on the discharge from wells W23, W105, the Drift-Platteville Aquifer source control wells and gradient control well, Reilly shall plan, obtain necessary permits for, and construct a treatment facility and piping to allow effluent from the wells to be discharged to a storm sewer. Necessary activities to complete this task for well W23 and the Drift-Platteville Aquifer source control wells are described in greater detail in Sections 2, 4, and 5 of this Report. It is anticipated that W105 discharge will be discontinued in 1990, while no decision has been made on the disposition of the Drift-Platteville gradient control well discharge. Section 9 of the Reilly/City Agreement provides for the payment by one party of costs incurred by the other party or the sharing by the parties thereto of costs incurred by one party in the implementation of the RAP. Within 30 days of the close of the calendar quarter in which the costs were incurred, the party incurring the costs shall issue a detailed statement of costs, including

supporting documentation, and within 30 days of receipt of such notice, the owing party shall pay to the other its share of the costs. A summary of the activity scheduled in 1990 is as follows:

<u>Chargeable Cost Items</u>	<u>Invoicing Party</u>	<u>Owing Party</u>
W105-Sanitary Sewer Charges	City	Reilly
W23 -Sanitary Sewer Charges	City	Reilly
Drift-Platteville Aquifer Source Control Wells -Sanitary Sewer Charges	City	Reilly
Drift-Platteville Aquifer Gradient Control Well -Sanitary Sewer Charges	City	Reilly

Part R of the Consent Decree requires Reilly to make payment in the amount of \$37,500 to the Environmental Response, Compensation, and Compliance Fund of the Treasury of the State of Minnesota by February 28, 1990. Reilly submitted the required payment on February 22, 1990.

Part T of the Consent Decree addresses compliance with all applicable local, state, and federal laws and regulations when implementing the Consent Decree. Among its provisions is the requirement that the USEPA and MPCA approve any facility used for off-site disposal of hazardous substances generated during work undertaken pursuant to the Consent Decree. If either Reilly or the City propose to use a facility in 1990, the Agencies must confirm the status of the facility before the shipment of hazardous wastes commences.

Part Y of the Consent Decree requires Reilly to provide the USEPA and MPCA with current certification of insurance for certain specified coverages. Appropriate documentation is due in 1990.

Part Z of the Consent Decree requires Reilly to deliver to the United States and State of Minnesota by May 31, 1990, a certificate prepared by Reilly's certified public accounting firm which sets forth whether Reilly's consolidated performance is in accord with the requirements set forth in the Consent Decree.

4.0 COMPLETED RAP ACTIVITIES

Progress continued in the implementation of the RAP during 1989. Operation of W105, W23, and the Drift-Platteville source/ gradient control systems continued throughout the year, and monitoring of the Mount Simon-Hinckley, Iron-ton-Galesville, Prairie du Chien-Jordan, St. Peter, and Drift-Platteville Aquifers was undertaken. Table 1 summarizes the progress made in completing the many activities contemplated in the RAP. Further details on the various RAP activities are provided below.

Section 2.9. of the RAP authorizes Reilly at any time to submit a plan to the USEPA and MPCA to change the discharge of any source control or gradient control well that is required to be discharged to the sanitary sewer by the provisions of the RAP to a surface water body. On November 20, 1989 Reilly submitted a proposed "Plan for Discontinuing Sanitary Sewer Discharges at the Reilly Tar & Chemical Corporation N.P.L. Site". The Plan provided for the routing of discharges from wells W23, W105, and the Drift-Platteville source control wells to the storm sewer after treatment for iron/manganese removal and PAH removal. Based upon extensive treatability testing carried out over 1989, Reilly proposed iron/manganese removal via sand filtration and PAH removal via granular activated carbon. On December 19, 1989 the MPCA submitted comments on the Plan and sought clarifications/revisions to satisfy NPDES permitting criteria. On February 22, 1990 the USEPA and MPCA issued a joint comment letter wherein additional issue clarification/Plan revision was sought.

Section 3.3. of the RAP requires Reilly to submit annual sampling plans to the USEPA and MPCA. Section 2(a) of the Reilly/City Agreement provides that the City assume all of Reilly's obligations under Section 3 of the RAP. The City submitted its proposed 1989 Sampling Plan on October 31, 1988. In

TABLE 1
STATUS OF RAP ACTIVITIES - 1989

<u>RAP SECTION</u>	<u>ITEM</u>	<u>ACTIVITIES</u>
2.9.	Discontinuing Sanitary Sewer Discharges	Plan submitted by Reilly on 11/20/89; Agency comment issued on 12/19/89 and 2/22/90
3.2. & 3.3.	1989 Annual Sampling Plan	Agency response issued on 3/28/89; modified plan submitted by City on 4/18/89
	1990 Annual Sampling Plan	Plan submitted by City on 10/31/89; Agency response issued 2/15/90
3.4.	1988 Annual Monitoring Report	Report submitted by City on 3/15/89; Agency response issued on 5/26/89; City response issued on 6/30/89; Agency response issued on 12/21/89
4.2.	GAC System Operation	System off line from 9/13/89 to 10/20/89; carbon replaced 10/18/89 through 10/20/89
4.3.	GAC System Monitoring	Samples collected monthly between January and August; December
5.1.	Mount-Simon Hinckley Monitoring	Annual monitoring completed
6.1.3.	Operation of W105 Source Control Well	Pumping during 1989 occurred without incident
6.1.4.	W105 Monitoring	Biannual monitoring completed
7.1.3.	Operation of W23 Source Control Well	Pumping during 1989 occurred without incident
7.2.2.	SLP4 Feasibility Study	FS report and NPDES permit submitted by City on 6/20/87; Agency comments provided on 9/17/87; response by City submitted 10/8/87; public meeting held 12/1/87; Minneapolis sponsored public meeting held 9/22/88; City notified Parties of intent to treat and use discharge on 12/4/89

Table 1 (continued)
Status of RAP Activities - 1989

7.2.5.	Prairie du Chien-Jordan Aquifer gradient control monitoring wells	Plan submitted by Reilly on 7/30/87; Agency comment issued 10/15/87; modified plan submitted by Reilly 11/5/87; City requested Minneapolis approve construction of W402 11/9/87; Minneapolis approved City request to construct W402 12/2/87
7.2.6.	Prairie du Chien-Jordan Aquifer gradient control monitoring well construction	Agencies approved access agreement 5/3/89; Minneapolis approved access agreement 7/5/89; Minneapolis issued permit 7/10/89; W402 constructed between 8/10/89 and 8/22/89
7.3.	Prairie du Chien-Jordan Aquifer monitoring	Completed as outlined in Sampling Plan
8.1.3.	St. Peter Aquifer monitoring	Completed as outlined in Sampling Plan
8.1.4.	Remedial Investigation Report	Submitted by City on 3/30/89; Agency comment issued on 5/26/89; modified report submitted by City on 6/19/89 and 7/21/89; Agency approval issued on 9/13/89
8.2.1.	Feasibility Study Plan	Agency requirement issued 9/13/89; City submitted plan on 10/16/89
8.2.2.	Feasibility Study Report	City submitted report on 11/15/89
9.1.3.	Operation/monitoring of Drift-Platteville Aquifer source control wells	Pumping during 1989 occurred without incident; quarterly monitoring completed
9.2.3.	Operation/monitoring of Drift-Platteville Aquifer gradient control well	Pumping during 1989 occurred without incident; quarterly monitoring completed
9.3.3.	Drift-Platteville Aquifer monitoring	Completed as outlined in Sampling Plan
9.3.4.	Remedial Investigation Report	City submitted report on 3/30/89; Agency comment issued on 5/26/89; modified report submitted by City on 6/19/89; Agency approval issued on 9/13/89

Table 1 (continued)
Status of RAP Activities - 1989

9.4.1.	Feasibility Study Plan	City submitted plan on 10/16/89; Agency approval issued on 12/31/89
9.4.2.	Feasibility Study Report	City submitted report on 11/15/89
9.6.	Drift-Platteville Aquifer monitoring	Completed as outlined in Sampling Plan
10.1.1.	Deep Multi-Aquifer Well	Plan submitted by City on 9/3/87; Agency comment issued 10/16/87; City response submitted 11/5/87
11.1.3.	Soil Investigation Report	City submitted report on 1/13/89; Agency response issued on 3/28/89; City submitted modified report on 4/18/89

correspondence dated March 28, 1989 the USEPA and MPCA sought clarification of and revision to elements of the Plan. On April 18, 1989 the City submitted an amendment to the Plan. As of December 31, 1989 no Agency response has been received.

The City submitted its proposed 1990 Sampling Plan on October 31, 1989 in accordance with the requirements of RAP Section 3.3.. On February 15, 1990 the USEPA and MPCA issued a joint letter to Reilly and the City wherein the Agencies sought revisions to the proposal and sought to meet with the City to discuss issues raised therein. On March 8, 1990 the City sought a 20 day extension to the revision deadline established pursuant to Part G.4. of the Consent Decree, noting that the requested meeting had not yet been held.

Section 3.4. of the RAP requires Reilly to submit an annual report to the USEPA and MPCA containing the results of all monitoring during the previous calendar year. The City submitted the 1988 Annual Report on behalf of Reilly on March 15, 1989. On May 26, 1989 the USEPA and MPCA issued a joint comment letter on the report's findings raising issues regarding the relationship between St. Peter Aquifer water quality (results of 1988 monitoring) and Drift-Platteville Aquifer water quality (results of 1988 monitoring). On June 30, 1989 the City submitted a response to the Agencies' letter of May 26, 1989, and on December 21, 1989 the USEPA and MPCA, in a joint letter, clarified issues, as raised in the May 26, 1989 correspondence.

Insofar as the City is responsible for submitting a report for 1989 activities, the USEPA, MPCA, and Reilly will receive the document under separate cover.

The City operated the granular activated carbon (GAC) treatment system in compliance with Section 4.2. of the RAP during 1989, treating 348.5 million gallons of water. The lowest monthly pumping total was 13.2 million gallons (in February), while the highest monthly pumping total was 49.2 million gallons (in December).

Reilly, the City, and Calgon Carbon Corporation (Calgon) conducted a pilot column test during the latter months of 1988 and the first five months of 1989. The objective of the test was to ascertain the cause of the shortened GAC service life and develop a possible means whereby the service life could be extended. The test results appeared to indicate that the optimum operational procedure places the system in a full time, non-stop mode. Accordingly, the system has been placed in a continuous operational mode since the carbon was replaced on October 18, 19, and 20, 1989.

As noted above, the carbon filter media was replaced in October, 1989. On September 19, 1989, the City notified the USEPA, MPCA, MDH, and Reilly that the August 29, 1989 monitoring detected levels of Other PAH in the treated effluent in exceedance of the Drinking Water Criterion, indicating that the carbon would be replaced. The treatment system was actually shut down on September 13, 1989 and was not operated until October 12 to October 17, 1989, when the treated effluent was discharged to surface waters. The goal of the October 12 to October 17 pumping was to attain a minimum monthly treatment volume of 10 million gallons.

A review of records indicates 302.3 million gallons of water were treated by the system's third carbon load between September, 1988 and September, 1989 (62.1 million gallons in 1988, 240.2 million gallons in 1989).

Insofar as Section 4.3.5. of the RAP requires that an annual report of the results of all GAC system monitoring completed in 1989 be reported by March 15, 1990, the City will forward a copy of said report to the USEPA, MPCA, MDH, and Reilly under separate cover by the required date.

Section 5.1. of the RAP requires Reilly to monitor the City's Mount Simon-Hinckley Aquifer wells on an annual basis. Section 2(a) of the Reilly/City Agreement provides that the City complete this task on behalf of Reilly. The City completed the Mount Simon-Hinckley Aquifer monitoring in

accordance with Section 5.1. of the RAP, and the results have been presented in an annual report issued in accordance with Section 3.4. of the RAP.

Section 6.1.3. of the RAP requires Reilly to pump W105 at a monthly average rate of 25 gallons per minute (gpm). Section 2(a) of the Reilly/City Agreement provides that the City operate W105 beginning the day pumping is started. Accordingly, the City has operated the well and has performed necessary periodic inspections as outlined in a plan approved under Section 6.1.1. of the RAP. A summary of the 1989 monthly pumpage is as follows:

<u>Month</u>	<u>Total Pumpage (Gallons)</u>	<u>Flow Rate (Gallons per Minute)</u>
January	1,160,773	26.0
February	1,093,340	27.1
March	1,220,579	27.3
April	1,170,478	27.0
May	1,182,623	26.4
June	1,128,438	26.1
July	1,231,239	27.5
August	1,307,169	29.2
September	1,172,664	27.1
October	1,177,012	26.3
November	1,144,992	26.5
December	1,172,048	26.3

Section 6.1.4. of the RAP requires Reilly to monitor W105 on a biannual basis. Section 2(a) of the Reilly/City Agreement provides that the City complete this task on behalf of Reilly. The City completed the monitoring in accordance with Section 6.1.4. of the RAP and the results have been presented in an annual report issued in accordance with Section 3.4. of the RAP.

Section 7.1.3. of the RAP requires Reilly to pump W23 at a monthly average rate of 50 gpm. Section 2(a) of the Reilly/City Agreement provides that the

City operate W23 beginning the day pumping is started. Accordingly, the City has operated the well and has performed necessary periodic inspections as outlined in a plan approved under Section 7.1.1. of the RAP. A summary of the 1989 monthly pumpage is as follows:

<u>Month</u>	<u>Total Pumpage (Gallons)</u>	<u>Flow Rate (Gallons per Minute)</u>
January	2,162,690	48.4
February	2,082,499	51.7
March	2,147,488	48.1
April	2,238,412	51.8
May	2,363,834	52.9
June	2,257,296	52.2
July	2,274,882	50.3
August	2,380,868	53.3
September	2,259,789	52.3
October	2,347,656	52.5
November	2,263,749	52.4
December	2,322,537	52.0

The pumpages for January, 1989 and March, 1989 failed to meet the specified 50 gpm rate, for inexplicable reasons; however, the annual average pumping rate for W23 in 1989 was 51.6 gpm. Accordingly, the intent of RAP Section 7.1.3. was met.

Section 7.2.1. of the RAP requires Reilly to submit to the USEPA and MPCA a plan for a feasibility study for discharge of water from municipal well SLP4 when operated as a Prairie du Chien-Jordan Aquifer gradient control well. Section 2(a) of the Reilly/City Agreement provides that the City will assume this obligation for Reilly. The City submitted the Feasibility Study Report on June 30, 1987, the contents of which supported its finding that the discharge to Minnehaha Creek is the preferred alternative. Also submitted by the City on

June 30, 1987 was an NPDES permit application, as required by Section 7.2.2. of the RAP. The USEPA and MPCA provided the City with comments on the Feasibility Study Report on September 17, 1987. The City submitted its response to the Agencies' comments on October 8, 1987. No response was received from the Agencies, however, the City was notified that the Agencies wished to sponsor a public meeting regarding the Feasibility Study Report and its findings.

The public meeting was held on December 1, 1987, with the USEPA, MPCA, and City represented by the respective Project Leaders. Also participating was the MPCA Alternate Project Leader. Transcripts of the meeting have been provided to the USEPA, MPCA, City and Reilly.

In conjunction with the public meeting, the USEPA placed a notice in the City's official newspaper, noting that the USEPA would accept comments from the public relative to the Feasibility Study Report content/recommendation until December 21, 1987. On December 18, 1987, the Minneapolis Park and Recreation Board submitted a letter to the USEPA summarizing its concerns relative to flooding, water contamination and safety. On February 2, 1988, the Minnehaha Creek Watershed District adopted a resolution favoring the discharge of water from SLP4 to Lake Calhoun, in Minneapolis. On February 10, 1988, the City notified the City of Minneapolis, via letter, of its willingness to participate in the review of discharge options, and on February 12, the City notified the USEPA, MPCA, and Reilly Project Leaders, requesting comment on the City's willingness to review the discharge options. Much discussion was held relative to the discharge options available, and on March 8, 1988, the City of Minneapolis, via letter from its Mayor to the City's Mayor, confirmed that its Public Works and Park and Recreation Board staffs were collaborating with the City to determine the feasibility of pumping water from SLP4 to Lake Calhoun.

In response to questions raised by the Minneapolis Park and Recreation Board, the City developed an environmental review (dated June, 1988) regarding the anticipated effects of pumping water from SLP4 to Lake Calhoun. This

review was commenced pursuant to issuance of a May 3, 1988 letter by the City's Project Leader to the USEPA, MPCA, and Reilly Project Leaders wherein the City's intent was communicated. In addition, the City developed preliminary plans for the construction of a submerged outlet for the SLP4 discharge system in Lake Calhoun. On July 19, 1988, the MPCA Project Leader issued a letter to the City Project Leader and Minneapolis Park and Recreation Board President relative to the content of the referenced June, 1988 environmental review.

On September 22, 1988, the City Project Leader, MPCA Project Leader, and Alternate MPCA Project Leader attended a public meeting sponsored by the Minneapolis Park and Recreation Board wherein the proposal to discharge water from SLP4 to Lake Calhoun was presented. As a result of the reluctance to accept the water exhibited by area residents, the Lake Calhoun discharge option was no longer considered acceptable by the City of Minneapolis. Accordingly, the City commenced a reevaluation of its position relative to the disposal of SLP4 discharge. In written correspondence dated December 4, 1989, the City's Project Leader notified the USEPA, MPCA, and Reilly Project Leaders of the City's intent to treat the SLP4 discharge for polynuclear aromatic hydrocarbon (PAH) removal via granular activated carbon and place the effluent into the municipal drinking water supply. The December 4, 1989 correspondence established a proposed schedule for the design/construction activities and acknowledged the Agencies had design review authority.

Section 7.2.5. of the RAP requires Reilly to submit to the USEPA and MPCA, within 30 days of submitting the SLP 4 Feasibility Study, a plan for construction or reconstruction of three gradient control monitoring wells in the Prairie du Chien-Jordan Aquifer. On June 1, 1988, the USEPA, MPCA, and MDH approved the proposed use of Interlachen Country Club well number 3 for water sampling (well W401). On April 22, 1988, the USEPA, the MPCA, and MDH approved the construction of well W403.

In correspondence dated November 5, 1987, Reilly proposed to the USEPA, MPCA, MDH, and City that the third well be drilled in Waveland Park in Minneapolis, at the intersection of Glendale Terrace and Drew Avenue. In addition, the letter requested a separate 60 day construction schedule for well W402, with the schedule beginning on the date Reilly received necessary permits and access agreements from the Minneapolis Park and Recreation Board (the landowner of Waveland Park) in accordance with Part P of the Consent Decree. Reilly noted that necessary applications would be made within 10 days of receiving the Agencies' approvals.

On November 9, 1987, the City, on behalf of Reilly pursuant to Sections 3 and 4 of the Reilly/City Agreement, submitted a written request to the Minneapolis Park and Recreation Board for authority to construct monitoring well W402 in Waveland Park. On December 2, 1987, the Park and Recreation Board approved the City's request for authority to construct monitoring well W402, subject to issuance of necessary access agreements. On February 10, 1988 the City submitted proposed revisions to the access agreement to the USEPA and MPCA for review and comment. In correspondence dated May 3, 1989, the USEPA, MPCA, and MDH approved the proposed access agreement revisions. On July 5, 1989 the Minneapolis Park and Recreation Board approved the access agreement and on July 10, the City of Minneapolis issued a permit for the installation of the monitoring well. Well construction activities commenced on August 10, 1989, and were completed on August 22, 1989.

Section 7.3. of the RAP requires Reilly to monitor the Prairie du Chien-Jordan Aquifer as specified in Section 3. of the RAP. Section 2(a) of the Reilly/City Agreement provides that the City will assume this obligation for Reilly. Monitoring of the aquifer was completed by the City in substantial compliance with Section 3. and 7.3. of the RAP, and information relative to the monitoring can be found in the annual report submitted pursuant to Section 3.4. of the RAP.

Section 8.1.3. of the RAP requires Reilly to monitor municipal City well SLP3 and other St. Peter Aquifer wells in accordance with a schedule established therein. Section 2(a) of the Reilly/City Agreement provides that the City complete this task on behalf of Reilly. The City completed the required monitoring in 1989.

Section 8.1.4. of the RAP requires Reilly to submit a remedial investigation report to the USEPA and MPCA that summarizes the results of the St. Peter Aquifer remedial investigation within 90 days of completing two rounds of monitoring. Section 2(a) of the Reilly/City Agreement provides that the City complete this task on behalf of Reilly. The City submitted the Remedial Investigation Report on March 30, 1989. On April 28, 1989 the USEPA and MPCA notified the City and Reilly that the Agencies were extending the Report review period by 30 days pursuant to the provisions of Part G.2. of the Consent Decree. On May 26, 1989 the USEPA and MPCA issued a joint comment letter wherein the Agencies sought clarification of and revisions to the Report's content. On June 19, 1989 the City submitted an amendment to the Report, clarifying issues and amending Report content in response to the Agencies' correspondence of May 26. On July 21, 1989 the City submitted additional revisions to the Report pursuant to a July 14, 1989 meeting of the MPCA and City Project Leaders. On July 21, 1989 the USEPA and MPCA notified the City and Reilly that the Agencies were extending the review period of the Report revisions pursuant to Part G.2. of the Consent Decree. In correspondence dated September 13, 1989, the USEPA and MPCA approved the revised Report and advised the City and Reilly that pursuant to Part H. of the Consent Decree and Section 8.2.1. of the RAP, a feasibility study was required for the St. Peter Aquifer .

Section 8.2.1. of the RAP requires Reilly to submit a plan for a feasibility study in the St. Peter Aquifer to the USEPA and MPCA within 30 days of receiving notice that a feasibility study plan is required. Section 2(a) of

the Reilly/City Agreement provides that the City complete this task on behalf of Reilly. On October 16, 1989 the City indicated in correspondence to the USEPA and MPCA that it had proactively begun the feasibility study work by providing for the recompletion of monitor well W410 as a potential gradient control well and completion of an aquifer test at the site to determine the capacity of the well and response of the aquifer to pumping (referred to in July 13, 1989 correspondence between the Project Leaders). On December 21, 1989, the USEPA and MPCA approved the Feasibility Study Plan of October 16, 1989.

Sections 8.2.2. and 8.3. of the RAP address the issuance of a feasibility study report to the USEPA and MPCA within 90 days of receiving approval of the feasibility study plan, and remedial actions for the purpose of preventing the further spread of ground water exceeding any of the Drinking Water Criteria defined in RAP Section 2.2. respectively. Section 2(a) of the Reilly/City Agreement provides that the City complete these tasks on behalf of Reilly. On November 15, 1989 the City submitted the results of the testing pumping of well W410, indicating the establishment of a gradient control well at W410 could control the spread of PAH in the aquifer related to Reilly Tar & Chemical Corporation activities. As of December 15, 1989 the City has received no comment on its submittal.

Section 9.1.3. of the RAP requires Reilly to operate the Drift-Platteville Aquifer source control wells at a monthly rate of 25 gpm and monitor them on a quarterly basis. Section 2(a) of the Reilly/City Agreement provides that the City operate the wells beginning the day pumping is started and monitor them as required. Accordingly, the City has operated the wells and has performed necessary periodic inspections as outlined in a plan approved under Section 9.1.1. of the RAP.

A summary of the 1989 monthly pumpages is as follows:

<u>Month</u>	<u>DRIFT SOURCE CONTROL WELL</u>		<u>PLATTEVILLE SOURCE CONTROL WELL</u>	
	<u>Total Pumpage (Gallons)</u>	<u>Flow Rate Gallons (Per Minute)</u>	<u>Total Pumpage (Gallons)</u>	<u>Flow Rate Gallons (Per Minute)</u>
January	1,915,186	42.9	1,217,980	27.3
February	1,746,894	43.3	1,080,353	26.8
March	1,917,171	43.0	1,196,122	26.8
April	1,846,763	42.7	1,181,860	27.3
May	1,940,399	43.4	1,204,905	26.9
June	1,854,424	42.9	1,130,306	26.1
July	2,049,249	45.9	1,774,501	39.8
August	2,051,461	45.9	2,003,693	44.9
September	1,950,181	45.1	2,022,763	46.8
October	1,947,703	43.6	1,565,636	41.6
November	1,944,278	45.0	1,565,636	36.2
December	1,895,743	42.5	1,166,918	26.1

From July to November, 1989 the pumping rate of the wells was increased to evaluate if the wells could be used as gradient control wells in the Northern Area of the Drift-Platteville Aquifer. Upon completion of the evaluation, the Drift Aquifer source control well was operated at approximately 43 gpm and the Platteville Aquifer source control well was operated at approximately 25 gpm.

Monitoring of the Drift Aquifer source control wells occurred on a quarterly basis pursuant to the requirements of Sections 3.2. and 9.1.3. of the RAP. A report of the results can be found in an annual report issued pursuant to Section 3.4. of the RAP.

Section 9.2.3. of the RAP requires Reilly to operate the Drift Aquifer gradient control well at a monthly rate of 50 gpm and monitor it on a quarterly basis. Section 2(a) of the Reilly/City Agreement provides that the City

operate the well beginning the day pumping is started and monitor it as required. Accordingly, the City has operated the well and has performed necessary periodic inspections as outlined in a plan approved under Section 9.2.1. of the RAP.

A summary of the 1989 monthly pumpages is as follows:

<u>Month</u>	<u>Total Pumpage (Gallons)</u>	<u>Flow (Gallons Per Minute)</u>
January	2,379,427	53.3
February	2,209,259	54.8
March	2,394,549	53.6
April	2,274,188	52.6
May	2,283,611	51.1
June	2,260,078	52.3
July	2,357,337	52.8
August	2,207,848	49.5
September	2,251,903	52.1
October	2,361,368	52.9
November	2,308,056	53.4
December	2,364,635	53.0

The average pumpage for August, 1989 was less than the required 50 gpm rate due to well pump shut down during the recompletion of St. Peter Aquifer well W410. The annual average rate clearly exceeds the established 50 gpm rate.

Monitoring of the Drift Aquifer gradient control well occurred on a quarterly basis pursuant to the requirements of Sections 3.2. and 9.2.3. of the RAP. A report of the results can be found in an annual report issued pursuant to Section 3.4. of the RAP.

Section 9.3.4. of the RAP requires Reilly to submit a remedial investigation report to the USEPA and MPCA that summarizes the results of the

Drift-Platteville Aquifer remedial investigation within 90 days of completing two rounds of monitoring. Section 2(a) of the Reilly/City Agreement provides that the City complete this task on behalf of Reilly. The City submitted the Remedial Investigation Report on March 30, 1989. On April 28, 1989 the USEPA and MPCA notified the City and Reilly that the Agencies were extending the Report review period by 30 days pursuant to the provisions of Part G.2. of the Consent Decree. On May 26, 1989 the USEPA and MPCA issued a joint comment letter wherein the Agencies sought clarification of and revisions to the Report content. On June 19, 1989 the City submitted an amendment to the Report, clarifying issues and amending Report content in response to the Agencies' correspondence of May 26. On July 21, 1989 the USEPA and MPCA notified the City and Reilly that the Agencies were extending the review period of the Report revisions pursuant to Part G.2. of the Consent Decree. In correspondence dated September 13, 1989, the USEPA and MPCA approved the revised Report and acknowledged the City had commenced a Limited Feasibility Study to determine the effectiveness of existing wells in controlling PAH contamination movement within the aquifer pursuant to the requirements of Section 9.4. of the RAP. This acknowledgement was based upon the content of a June 30, 1989 letter from the City's Project Leader to the USEPA, MPCA, and Reilly Project Leaders. On October 16, 1989 the City submitted to the USEPA and MPCA a proposed Feasibility Study Plan required under the provisions of RAP Section 9.4.1.. On December 21, 1989 the USEPA and MPCA approved the Northern Area Feasibility Study Plan, dated October 16, 1989.

Section 9.4.2. of the RAP requires Reilly to submit a feasibility study report within 90 days of receiving approval of the feasibility study plan. Section 2(a) of the Reilly/City Agreement provides that the City complete this task on behalf of Reilly. On November 15, 1989 the City submitted a report on the evaluation of the effectiveness of the Drift-Platteville Aquifer source control well system to limit the further spread of contamination in the

Northern Area. As of December 31, 1989 no Agency comment has been received regarding the submittal.

Section 9.6. of the RAP requires Reilly to monitor various wells in the Drift-Platteville Aquifer pursuant to the provisions contained therein. Section 2(a) of the Reilly/City Agreement provides that the City will assume this obligation for Reilly. The City completed the 1989 monitoring in accordance with the provisions Sections 3.2., and 9.6. of the RAP. The results of the monitoring will be contained in an annual report issued in accordance with Section 3.4. of the RAP.

Section 10.1.1. of the RAP requires Reilly to submit to the USEPA, MPCA and MDH, within one year of the Effective Date, a plan for investigating certain multi-aquifer wells that may be adversely affecting the Mt. Simon-Hinckley, Iron-ton-Galesville and Prairie du Chien-Jordan Aquifers. Section 2(a) of the Reilly/City Agreement provides that the City will assume this obligation for Reilly. The City submitted an "Investigation Plan for Leaking Deep Multi-Aquifer Wells" on September 3, 1987 and received the Agencies' joint response letter on October 19, 1987. The Agencies' letter presented a number of questions and comments relative to the City's submittal, and requested clarification of issues raised. On November 5, 1987 the City issued its response letter, addressing the issues presented in the Agencies' letter. No Agency response to the November 5, 1987 letter has been received.

Section 11.1.3. of the RAP specifies that Reilly shall submit a report to the USEPA and MPCA on the results of soil boring installation/sampling within 60 days of completing the borings. Section 2(a) of the Reilly/City Agreement provides that the City will assume this obligation for Reilly. On January 13, 1989, the City submitted the Soil Investigation Report to the USEPA and MPCA. In correspondence dated March 28, 1989, the USEPA and MPCA provided comments regarding the submittal, requesting clarification of issues and amendment to

Report content.. On April 18, 1989 the City submitted an amended Report in response to the Agencies request. As of December 31, 1989 no Agency response has been received.

Section 11.2. of the RAP requires that the Parties file an affidavit with the Recorder of Deeds of Hennepin County which complies with MN Statutes 115B.16, Subd. 2 for property owned within the area described in Section 11.1. of the RAP on which a release of hazardous substances resulting from operations at the former Reilly Site has occurred or is occurring. On May 19, 1989 the City complied with the provision of RAP Section 11.2. and submitted copies to the USEPA and MPCA. In addition, RAP Section 11.2. requires the City to submit to the USEPA and MPCA a list of the location and owners of other properties within the area described in RAP Section 11.1. above, on, or under which a release has occurred or is continuing to occur. The City fulfilled this requirement in a submittal to the Agencies dated May 15, 1989.

Section 11.4. of the RAP addresses the construction of the Trunk Highway 7/Louisiana Avenue intersection. On October 19, 1989 the City notified the USEPA and MPCA that the Minnesota Department of Transportation had committed funds for the construction of the intersection in fiscal year 1990. On December 21, 1989 the USEPA and MPCA acknowledged receipt of the notification.

5.0 SCHEDULED RAP ACTIVITIES

Table 2 summarizes the expected schedule for RAP activities during 1990. Many of the schedule dates cannot be established definitely because they depend on Agency review, inspection, and approval. The most important task which must be successfully completed in 1990 is the approval of the Sampling Plan required in Section 3.3. of the RAP. Groundwater monitoring is an essential ongoing task. In addition, the operation of municipal well SLP4 as a gradient control well is scheduled to begin in 1990/1991.

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TABLE 2
EXPECTED RAP ACTIVITIES - 1990

<u>RAP SECTION</u>	<u>ITEM</u>	<u>EXPECTED TIMETABLE</u>
2.9.	Discontinuing Sanitary Sewer Discharge	Reilly to submit plan modifications; Agencies to review/approve; Reilly to construct
3.3.	Sampling Plan for 1990	City to submit modifications 3/28/90
3.3.	Sampling Plan for 1991	City to submit plan 10/31/90
3.4.	1989 Annual Report	City to submit report 3/15/90
4.3.	GAC Plant Monitoring	Continued monitoring in accordance with the RAP.
4.3.5.	1989 GAC Annual Report	Due 3/15/90
5.1.	Mount Simon Hinckley Aquifer Monitoring	Refer to Sampling Plan
6.1.4.	W105 Monitoring	Refer to Sampling Plan
6.1.5.	W105 Pumping Cessation	Refer to RAP for criteria
7.2.4.	SLP4 Completion	City to submit plan; Agencies to review/approve; City to construct
7.3.	Prairie du Chien-Jordan Aquifer Monitoring	Refer to Sampling Plan
8.1.3.	St. Peter Aquifer Monitoring	Refer to Sampling Plan
8.2.2.	St. Peter Aquifer Feasibility Study Report	Agency comment due
9.1.3.	Monitoring Drift-Platteville Aquifer Source Control Wells	Refer to Sampling Plan
9.2.3.	Monitoring Drift-Platteville Aquifer Gradient Control Wells	Refer to Sampling Plan
9.4.2.	Feasibility Study Report	Agency comment due
9.6.	Drift-Platteville Monitoring	Refer to Sampling Plan
10.1.	Multi-Aquifer Well Investigation/Report	Agency comment due; City to complete investigation within one year of Agency approval
11.1.3.	Soil Investigation Report	Agency comment due
11.4.	Louisiana Avenue/Trunk Highway 7 Intersection	City to submit plan; Agencies to comment; City to construct